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Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

MARTE, JUAN C

ART UNIT	PAPER NUMBER
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2447

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,380	Applicant(s) BUESGEN ET AL.	
	Examiner JUAN C. MARTE	Art Unit 2447	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-27, 31-33 and 38-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-27, 31-33 and 38-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The applicant amended claims 21, 22, 23, 25-27, 31, 32, and 38-40, canceled claims 28-30 and 34-37, and added new claims 41-42 in the amendment received on 12/18/2008.

The claims 21-27, 31-33, and 38-42 are pending.

Claim Objections

2. Claim 42 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 42 claims dependency from claim 42. Examiner will treat claim 42 as being dependent from claim 41.

Response to Arguments

3. Applicant's arguments with respect to claims 21 and 41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-27, 33, 38 and 40-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Allon et al. (U.S. Patent No. 5,539,883).

With respect to claim 21, In an automation network comprising a plurality of devices, a method for replacing a first drive device involving identifying an order of devices in the network, wherein the network contains a number of nodes, and wherein each of the nodes has a number of connections for interconnecting the nodes and the devices (Allon, disclosed a network containing a number of devices/ nodes each operative for connection to a number of devices/nodes, col. 4 lines 16-41), the method comprising: providing a second device with data memory or storage in which a relationship or order of the drive device with respect to at least the second device is stored (Allon, disclosed the generating of links between nodes and other nodes in a network providing subsequent devices with information on the ordered structure of the network they are in, col. 4 lines 16-23 and col. 5 lines 12-21); replacing the drive device with a replacement drive device (Allon, disclosed a network structure being maintained if a device fails and is replaced, col. 4 lines 48-52 and lines 60-67); operating the replacement drive device to identify a first of the nodes to which it is assigned and to identify other devices including the second device; (Allon, col. 5 lines 3-21); operating the replacement drive device to receive information from the second device (Allon, col. 5 lines 3-21) enabling the drive device to ascertain: the number of connections of the first node and a predefined hierarchy of the connections (Allon, col. 6 lines 29-34) and;

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the connection with which the replacement drive device is connected to the first node (Allon, col. 5 lines 3-21 and col. 6 lines 35-41) and to determine for the first node other connections which are connected to other nodes or devices (Allon, disclosed the node receiving and storing information from other nodes in the network concerning the nodes they are link to as well, col. 6 lines 22-28); and establishing a relationship between devices in the network on the basis of the connection hierarchy predefined for the first node (Allon, disclosed each device assigned a rank and being linked to a device of a lower rank and others of higher ranking, col. 4 lines 42-53) and of the determined other connections which are connected to the devices or other nodes (Allon, disclosed the assignment of rank to each node in the network to determine its place in the network tree, col. 4 lines 42-47).

With Respect to claim 22, Allon disclosed the limitations of claim 21, including executed by each of the devices (Allon, disclosed the steps taken by each node in the network tree to send and receive information concerning the placement of each node in the network tree, col. 6 lines 14-43).

With Respect to claim 23, Allon disclosed the limitations of claim 21, including wherein by the step of establishing a relationship another device is established as upstream neighbor and another device is established as downstream neighbor for each of the devices (Allon, disclosed the network tree building process as executed by each

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node in the network to determine its place in the network as a downstream or upstream node, col. 7 lines 1-18).

With Respect to claim 24, Allon disclosed the limitations of claim 21, including wherein each step of the method is repeated periodically (Allon, disclosed the periodic distribution of the network tree information across the network which is used by each node to determine its placement in the network as well as the placement and status of all other nodes in the network, col. 4 lines 15-31, col. 5 lines 12-21 and lines 62-67).

With Respect to claim 25, Allon disclosed the limitations of claim 21, including wherein the recited steps are repeated whenever a device is no longer connected to the network (Allon, disclosed the network tree maintenance process that takes place to recognize dead or new nodes on the network, col. 8 lines 35-59).

With respect to claim 26, Allon disclosed the limitations of claim 21, including wherein the recited steps are repeated whenever a new device is connected to the network (Allon, disclosed the network tree maintenance process that takes place to recognize dead or new nodes on the network, col. 8 lines 35-59).

With respect to claim 27, Allon disclosed the limitations of claim 21, including wherein the recited steps are repeated whenever a device is replaced by a new device (Allon, disclosed the network tree maintenance process that takes place to recognize

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dead or new nodes on the network as well as replacing and rebooting a node, col. 8 lines 21-26 and lines 35-59).

The limitations of claim 33 are rejected in the analysis of claim 21 above, and the claim is rejected upon that basis.

With respect to claim 38, Allon disclosed the limitations of claim 21, including applied to an automation system containing controls, operator units, drives or actuators as devices (Allon, disclosed a computer or node operating in a network of similar devices with which it is linked to, col. 6 lines 18-28).

With respect to claim 40, Allon disclosed the limitations of claim 21, including wherein the network is a means of rail transport containing traction vehicles and cars as devices (Allon, disclosed the configuration of a cluster wherein each computer/node is assigned a different ranking and each node connects to other nodes in the cluster and not those outside of the cluster, col. 12 lines 31-40).

With respect to claim 41, Allon disclosed In an reconfigurable network comprising a plurality of devices (Allon, disclosed a scalable computer network comprising of a plurality of devices, col. 4 lines 53-67), a method for identifying an order of devices in the network (Allon, disclosed a method of identifying the order of the devices in a network, col. 4 lines 32-59) thereby enabling determination of relative spatial

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arrangements among the devices (Allon, disclosed the method further determining the location of a target device, col. 11 lines 16-24), wherein the network contains a number of nodes (Allon, disclosed a network containing a number of devices/ nodes, col. 4 lines 16-41), and wherein each of the nodes has a number of connections for interconnecting the nodes and the devices (Allon, disclosed a network wherein each device/node has a number of interconnections with other devices/nodes, col. 4 lines 39-67), the method comprising: configuring the network according to a first hierarchical arrangement of the connections thereby establishing relationships among the nodes determinative of the relative spatial arrangements among the devices (Allon, disclosed a network configured to an initial network hierarchical arrangement between the device which can determine the location of each device relative to another device, col. 4 lines 53-67 and col. 11 lines 16-24); a first of the devices performing a series of determinations (Allon, disclosed a device performing a series of determination concerning the status of other devices in the network, col. 5 lines 12-21) including: determining a first of the nodes to which it is assigned, determining other devices upstream or downstream from the first device (Allon, disclosed a device determining if another device in the network is situation upstream or downstream (higher up the tree or lower down the tree) from said device, col. 4 lines 43-47 and col. 5 lines 3-11), determining the number of connections of the first node (Allon, disclosed each device determining the number of devices connected on the network to said device, col. Lines 16-31), the first hierarchical arrangement of the connections and nodes (Allon, disclosed a hierarchical arrangement for the devices that is further scalable/reconfigurable, col. 5 lines 43-67), and the connection with which the

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device is connected to the first node (Allon, disclosed a device determining the connections it maintains with other devices with the network, col. 6 lines 29-43 and col. 7 lines 1-20) and determining for the first node other connections which are connected to other nodes or devices (Allon, disclosed a device on a network determining the connections that other devices on the network have maintained between subsequent devices. col. 7 lines 1-20 and lines 29-32), the first device thereby acquiring in accord with the first hierarchical arrangement relationships among nodes and connections to which other devices are connected (Allon, disclosed a device thus establishing a stored hierarchal template for the connections of the nodes with the network and changing this template whether a device is added or removed from the network, col. 4 lines 53-67 and col. 5 lines 12-21).

With respect to claim 42, Allon disclosed the limitations of claim 41, including wherein the network comprises a plurality of computer devices each positioned on a vehicle or car in a transport arrangement (Allon, disclosed the configuration of a cluster wherein each computer/node is assigned a different ranking and each node connects to other nodes in the cluster and not those outside of the cluster, col. 12 lines 31-40).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 31, 32, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allon et al. (U.S. Patent No. 5,539,883) in view of Liu et al. (U.S. Patent No. 6,574,664 B1).

With respect to claim 31, Allon disclosed the claimed subject matter as discussed above except, wherein determination of connections between the first node and other nodes is performed by the MAC addresses. However, Lui disclosed discovering devices on a local network. Liu disclosed wherein determination of connections between the first node and other nodes is performed by the MAC addresses (Lui, disclosed the discovery procedure utilizes the MAC address to discover the nodes or devices connected to one another on the network, col. 2 lines 28-34) in order to determine the other connections connected to other nodes or devices for this node (col. 2 lines 35-45). Therefore, based on Allon and in view of Liu it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Liu in the system of Allon in order to determine the other connections connected to other nodes or devices for this node.

With respect to claim 32, Allon disclosed the claimed subject matter as discussed above except, wherein the relationship determined in step e) also contains the IP addresses of the other devices. However, Lui disclosed discovering devices on a local network. Lui disclosed the IP addresses of the other devices being used in determining the network relationship between devices (Lui, disclosed the local IP address procedure

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discovers the IP address of the devices on the local network and the IP address is stored, col. 2 lines 23-51) in order to perform more complex operation in managing devices on the network (col. 2 lines 1-3 and col. 1 lines 33-38). Therefore, based on Allon and in view of Liu it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Liu in the system of Allon in order to perform more complex operations with the devices or nodes on the network.

With respect to claim 39, Allon disclosed the claimed subject matter as discussed above except, wherein the network is an Ethernet containing personal computers or peripherals as devices. However, Lui disclosed devices or nodes on an Ethernet topology. Lui disclosed, wherein the network is an Ethernet containing devices or nodes (Lui, disclosed the network can utilize any type of network topology but the preferred topology is the Ethernet topology, col. 3 lines 34-53) in order to have a network containing thousands of addressable devices (col. 3 lines 54-56). Therefore, based on Allon and in view of Lui it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teaching of Lui in the system of Allon in order to have a network containing thousands of addressable devices.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a. Darby et al. (U.S. Patent No. 6,867,708 B2) disclosed a system and method for communication over networks, particularly generally-linear networks such as a network of railcars in a railway train.

b. Barker (U.S. Patent No. 7,447,753 B2) disclosed a processor is operative for determining for each node from the first and second information the identity of adjacent nodes and the identity of the ports which its ports are connected.

10. Any inquiry or correspondence concerning this communication or earlier communications from the examiner should be directed to J. Carlos Marte whose

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telephone number is (571) 270-7206. The examiner can normally be reached M-F between the hours of: 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Hwang can be reached at 571-272-4036.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions concerning the access of the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-2197 (toll-free).

/J. C. M./
Examiner, Art Unit 2447
04/07/2009

/Joon H. Hwang/
Supervisory Patent Examiner, Art Unit 2447